

**Supplemental  
Notice of Allowability**

**Application No.**

10/606,062

**Examiner**

Nhon T. Diep

**Applicant(s)**

FLORENCIO, DINEI A.F.

**Art Unit**

2621

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Interview Summary.
2. ☒ The allowed claim(s) is/are 1-3, 8-15, 23-25, 27-29, which were renumbered as 1-17, respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|--|---|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date ____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date <u>2/9/2009</u>.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other ____.</li> </ol> |
|--|---|

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Craig Fischer on 2/9/2009.

2. The application has been amended as follows:

**IN THE CLAIMS:**

**Claim 1:** At line 1, "comprising:" has been changed to –comprising:  
using a general-purpose computing device to perform the following process  
actions:--;

At line 6: after "reference", "sub-frames," has been changed to –sub-frames using  
a hierarchical reference frame processing module,--;

At line 8: after "generating predicted", "frames each" has been changed to –  
frames using a hierarchical predicting frame processing module, each of the predicted  
frames--;

At line 11: after "predicted", "sub-frames" has been changed to –sub-frames  
using the hierarchical predicting frame processing module --;

**Claim 8:** At line 2, "comprising:" has been changed to –comprising:  
using the computer to perform the following process actions:--;

At line 3: after “a plurality of”, “layers” has been changed to –layers using a hierarchical reference frame processing module--;

At line 8: “using a motion compensation technique having” has been changed to –using a hierarchical predicting frame processing module and a motion compensation technique to generate--;

At line 10: after “predicted”, “sub-frames” has been changed to –sub-frames using the hierarchical predicting frame processing module --;

**Claim 15:** At line 2, “comprising:” has been changed to –comprising:  
using a general-purpose computing device to perform the following process actions:--;

At line 3: after “a plurality of”, “layers” has been changed to –layers using a hierarchical reference frame processing module--;

At line 11: “a prediction frame for” has been changed to – a prediction frame using a hierarchical predicting frame processing module for--;

At line 13: after “predicted”, “frame” has been changed to –frames using the hierarchical predicting frame processing module --; and

**Claim 23:** At line 3, “comprising:” has been changed to –comprising:  
using the computer to perform the following process actions:--;

At line 6: after “the frequency”, “band;” has been changed to –band using a hierarchical reference frame processing module--;

At line 7: after “the reference”, “sub-frame” has been changed to –sub-frame using a hierarchical predicting frame processing --;

At line 10: after “predicted”, “sub-frames” has been changed to –sub-frames using the hierarchical predicting frame processing module --.

### **REASONS FOR ALLOWANCE**

3. The following is an examiner’s statement of reasons for allowance: The present invention relates to data compression and more particularly to a hierarchical data compression system and method for encoding and decoding video data by dividing the video data into layers whereby each layer is encoded and decoded independently of other layers. The various prior art of record does not anticipate or render obviousness a method for coding video data comprising: using a general-purpose computing device to perform the following process actions; dividing the video data into a plurality of layers; encoding each of the plurality of layers independently of each other to produce an encoded version of the video data, encoding further comprising: dividing a reference frame of the video data into a plurality of layers containing reference sub-frames using a hierarchical reference frame processing module, wherein each of the reference sub-frames contains a unique frequency band; generating predicted frames using a hierarchical predicting frame processing module, each of the predicted frames containing a unique frequency band for each of the plurality layers using the corresponding reference sub-frame containing the unique frequency band to generate predicted sub-frames; filtering each of the predicted sub-frames using the hierarchical predicting frame processing module based on the unique frequency band of that predicted sub-frame such that frequencies outside of the unique frequency band are eliminated to generate modified predicted sub-frames at each of the plurality of layers;

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and decoding each of the plurality of layers independently of each other to produce a reconstructed version of the video data as specified in claims 1, 8, 15 and 23 and it is also noted that the reference frame processing module and prediction frame processing module are hardware modules.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T. Diep whose telephone number is 571-272-7328. The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ND

/Nhon T Diep/  
Primary Examiner, Art Unit 2621